MARINE REVIEW.

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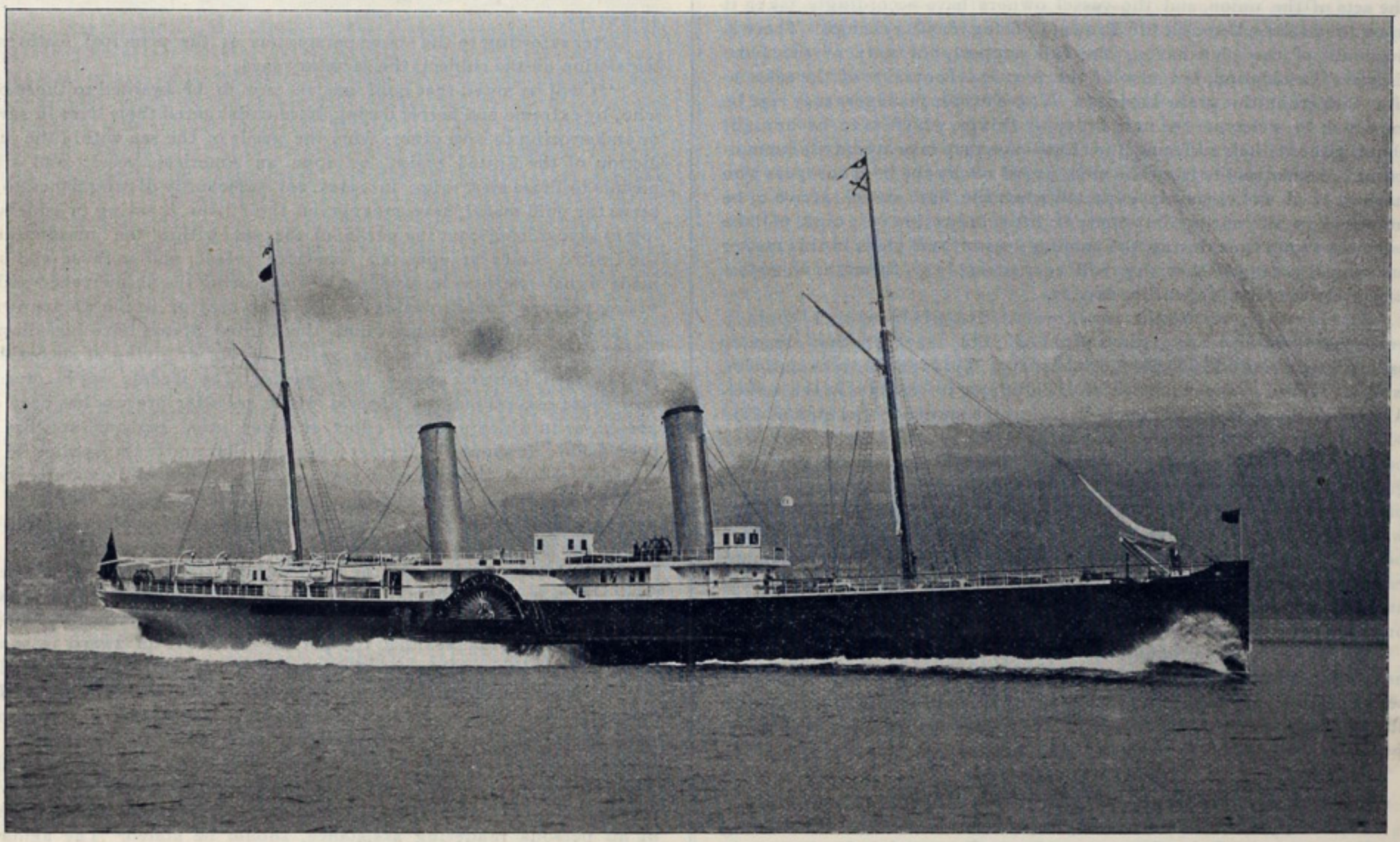
What Foreigners are Doing in Passenger Boats.

The recent inspection tour of English and Scotch ship yards, made by Frank E. Kirby, and Gilbert N. McMillan of the Detroit Dry Dock Company, was an exceedingly interesting one. In conversation with the latter a representative of the REVIEW was given a brief summary of the three months' journey. After an advantageous inspection of the Cramp yard and engine works, Philadelphia, just before the launch of the American line steamer St. Louis when work was suspended in the yard, Messrs. Kirby and McMillan sailed Nov. 17, on the Campania. They were given free access to every part of the big Cunard ship, and inspected the engines when the steamer was lying at the dock and while running full speed at sea. At Laird's yard, Birkenhead, a battleship was on, and six or eight 28-knot torpedo boat chasers were also under construction. This type of war vessel is now so prevalent in British ship yards that the visitor begins to look for torpedo boat "chaser chasers" as the next thing in order and is inclined to speculate on the funny features of carrying out the policy inaugurated in this kind of boat. Among the Tyne yards, that of the Palmers was most interesting. There were two Peninsular and Oriental boats and several torpedo boats in course of construction. At this yard iron ore from Spain is converted into ships, all of the various processes of manufacture being conducted in the one plant. In this institution, when in full operation, 10,000 men are employed. At the Doxford yard, Sunderland, where one vessel of the American whaleback type was built, two turret steamers were on the stocks and one in the water. Nine tramp steamers were being built in Sir William Gray's yard at Hartlepool and orders for three more were booked. These notes are indicative of the extent to which building operations are at all times being carried on in British yards, as the present is not an active period.

At Glasgow the Detroit visitors met Mr. James Howden of hot draft fame, who was so busy attending to orders for his apparatus that he had closed his mauufacturing establishment and was giving his whole attention to patents on the draft system, which are controlled on the lakes by the dry dock company. At one yard, that of Sir William Gray, where there were nine steamers under way, the Howden system is used almost exclusively.

William Denny & Bros. Dumbarton, Scotland, are the most famous builders of side-wheel passenger steamers in the world, and here Messrs. Kirby and McMillan were given free access to the company's experimental tank for the trial of models, the only one in the world owned by a private corporation. They obtained diagrams of lines, resistance, etc. of fast side-wheel passenger boats. More time was given to the study of this kind of vessel than to any other, and they crossed the channel four times from Dover to Ostend, on the latest of the Denny side-wheel flyers, the Leopold II., an illustration of which is shown herewith. The trip was also made from New Haven to Dieppe on the twin-screw channel steamers Seaford and La Tamise. The Seaford was built by Denny and has Scotch boilers. and La Tamise was built in France, and has Belleville boilers. Each are of about 5,000 horse power and 20-knot speed but it was reported that one uses twenty-eight tons of coal and the other forty-five tons per trip. The engines are triple expansion, 27 inches stroke, and are run at 200 revolutions per minute. These boats are described in our issues of Oct. 4 and 25, 1894. The English boat is the faster in smooth weather and the French boat the faster in rough weather. Among other side-wheel passenger boats inspected was the Princess Henriette. An interesting collection of photographs showing a number of channel steamers and other craft, as well as cabin decorations, was secured.



FAST SIDE-WHEEL CHANNEL STEAMER LEOPOLD II.

In connection with this trip and the knowedge gained from it, it may be stated that the Detroit company is figuring with several parties for passenger steamers, and if they decide on side-wheel boats they will get something very fast and handsome as well. The Detroit company's experience in the construction of side-wheel steamers, added to the best information of what is being done on the other side, ought to give them advantages in this class of work.

Some of the large sailing ships built on the Clyde in Great Britain have as many as six or seven "Providence" capstans.

To Get Rid of the Boss Scooper System.

In accordance with plans outlined at the last annual meeting of the Lake Carriers' Association in Detroit, Capt. J. J. H. Brown and other members of a committee appointed to seek a reduction in grain shoveling charges at Buffalo have entered into a contract with James Kennedy, a man thoroughly familiar with all details of the business, whereby it is expected to reduce shoveling charges, and at the same time better the condition of 800 or 1,000 men employed in the work, by insuring to them full returns for their labor. The plan in short is to overthrow the present boss scooper system and have the entire work done under one contract, on a systematic basis and at a uniform price, just as the package freight business of Buffalo is handled.

The duties of the Lake Carriers' committee have been almost entirely entrusted to Capt. J. J. H. Brown of the firm of Brown & Co., who was successful a year ago in securing a reduction of 25 cents per 1,000 bushels in the steam shovel charge made by the elevator association. The vessel owners have held that the control of this work by twenty or more boss shovelers, who were in many cases keepers of boarding houses and saloons, and who allowed politics, board bills and saloon bills to enter into the conduct of the business was a great evil, involving unnecessary charges that all came out of the vessel. They were dissatisfied not only with the prices charged, but principally with the system of charging as high as $10 for grain that was slightly heated or for shoveling cargoes that were partially damaged by stress of weather, yet which were being elevated without any additional expense by the different elevators in the association. The elevator association had expressed inability to control the acts of the union, and the vessel owners have accordingly taken it upon themselves, through Mr Brown, to bring about a change. There is no doubt of the plan having the full support, not only of the Lake Carriers' Association, but also of the few vessels outside of the association that are in the grain business. The elevator managers may also be expected to welcome the new order of things, which is to be brought about without their suffering the annoyance that may attend its inauguration. Some trouble from the men, urged on by the boss scoopers who have most at stake, may be expected when the first vessels arrive to be unloaded in the spring, but there is little indication of a rush of lake business at any time during the coming season, and plans in this matter are so well arranged that they will very probably go through, no matter how great the labor difficulties may be.

Mr. Brown agrees for the vessel owners that all shoveling of grain in vessels at Buffalo will be given to Kennedy, the vessel, whether steam or sail, to pay a rate of $3.50 per 1,000 bushels. This rate is to be uniform, without regard to the condition of the grain or its location in the vessel. As part of his contract, Kennedy is to furnish surety in the sum of $50,000. He agrees that the men employed in the work, so far as they may be satisfactory to him, shall be the men now working on the shoveling gangs at the various elevators; that he will pay the men weekly at his office, or if they are at work when the pay is due, then at the elevator where they may be at work, and not in any saloon or in any place where beer or liquor is sold; and that payments shall be for the full amount earned by the men without deduction for any bill, claim or demand due any person; and that in giving employment he will not discriminate for or against any man on account of his political convictions.

It is understood, although not a part of the contract, that Mr. Kennedy may employ as foremen some of the present boss scoopers, but vessel owners are not concerned on this point, as their aim is to systematize the business and deal, on a basis of fair wages for the men, with a responsible chief official in charge of the whole work.

Awards of Life-Saving Medals.

Secretary Carlisle of the treasury department has of late been drawing the lines very closely in the matter of awarding medals for bravery in saving life. In a late circular the department quotes all existing legislation relating to life-saving medals, and also gives an opinion of the attorney-general as to the construction to be placed on section 12 of the act of June 18, 1878, which simply authorizes the secretary of the treasury "to bestow the life-saving medal of the second class upon persons making such signal exertions in rescuing and succoring the shipwrecked, and saving persons from drowning, as in his opinion, shall merit such recognition."

The attorney-general holds that the waters contemplated by this section of the law are "either the high seas or what may be described as waters of the United States, that is waters belonging to the United States as owner, or over which it has jurisdiction by virtue of its authority to regulate interstate and foreign commerce." The circular directs particular attention to this opinion, and then quotes section 7 of the act of June 20, 1874, and section 9 of the act of May 4, 1882, as follows:

Section 7, act of June 20, 1874.—"That the secretary sf the treasury is hereby directed to cause to be prepared medals of honor, with suitable devices, to be distinguished as life-saving medals of the first and second class, which shall be bestowed upon any person who shall hereafter endanger their own lives in saving or endeavoring to save lives from perils at sea, within the United States or upon any American vessel; provided that the medal of the first class shall be confined to cases of extreme and heroic daring, and that the medal of the second class shall be given in cases not sufficiently distinguished to desere the medal of the first class; provided also that no award of either medal shall be made to any person until sufficient evidence of his deserving shall have been filed with the secretary of the treasury and entered upon the records of the department."

Section 9, act of May 4, 1882—"That the life saving medals of the first and second class authorized by the provisions of the seventh section of the act of June 20, 1874, shall be hereafter designated as the gold and silver life saving medal respectively, and any person who has received or may hereafter receive either of said medals under provisions of said section, or the twelfth section of the act of June 18, 1878, and who shall again perform an act which would entitle him to a medal of the same class under said provisions, shall receive, and the secretary of the treasury is hereby authorized to award, in lieu of a second medal, a bar, suitably inscribed, of the same metal as the medal to which said person would be entitled, to be attached to a ribbon of such description as the secretary of the treasury may prescribe, which may be fastened to the medal already bestowed upon said person; and for every such additional act an additional bar may be added. And the secretary of the treasury is hereby authorized, in his discretion, whenever any person becomes entitled to a bar representing a gold medal, to award him, in addition to said bar, such token as it is customary to award in acknowledgment of the services of masters and crews of foreign vessels in rescuing American citizens from shipwreck."

After referring to the above paragraphs as the principal features of legislation on the subject, the secretary says:

"It will be noted that gold medals are to be awarded to those only who, by extreme and heroic daring, have endangered their lives in saving or endeavoring to save others from the perils of the sea within the jurisdiction of the United States, or upon an American vesel; and silver medals to those only who, in cases not sufficiently distinguished to deserve the gold medal, have endangered their lives in saving or endeavoring to save others from the perils of the sea within the jurisdiction of the United States or upon an American vessel; and to those who have made signal exertions in rescuing and succoring the shipwrecked and in saving persons from drowning on the high seas or in the waters owned by the United States or over which the United States have jurisdiction. It should be observed that the saving of life or giving of succor does not, in itself, entitle a person to a medal. The medals can be given in only those exceptional instances in which peculiar bravery has been displayed, or in which unusual effort or some great personal sacrifice has been made. It should be further observed that under the opinion of the attorney-general, the saving of persons from drowning in waters wholly within a state, and not forming a part of the navigable waters of the United States, or in small inland streams, ponds, pools, etc., does not entitle the rescuers to medals.

"Satisfactory evidence of the services performed must be filed in each case. This evidence should be in the form of affidavits made by eye-witnesses, of good repute and standing, testifying of their own knowledge. The opinion of witnesses that the person for whom an award is sought imperiled his life or made signal exertions is not sufficient, but the affidavits must set forth in detail all facts and occurrences tending to show clearly in what manner and to what extent life was risked or signal exertions were made, so that the department may judge for itself as to the degree of merit involved. The precise locality, whether within the United States or upon an American vessel, the date, time of day, nature of the weather, names of all persons present, when practicable, and the names of all persons rendering assistance, should be stated. The affidavits should be made before an officer duly authorized to administer oaths, and be accompanied by a certificate showing the affiants to be credible persons, certified either by the United States district attorney for the district in which the affiants reside, or by the collector of customs of their collection district."

Both the Union Iron Works of San Francisco and the Bertram Engine Works of Toronto are now building Roberts water tube boilers on contract. The Roberts company, which has works at Redbank, N. J., and offices at 41 Cortlandt street, New York, has recently increased its cash capital, and officers report that orders on hand are more numerous than they have been at any time since the business was established. In all about 800 boilers of this type have been built since it was invented.

"SAILING DIRECTIONS FOR LAKE SUPERIOR, ST. MARY'S RIVER AND STRAITS OF MACKINAC" IS A PUBLICATION RECENTLY ISSUED BY THE UNITED STATES HYDROGRAPHIC OFFICE. IT IS FAR IN ADVANCE OF PUBLICATIONS OF THE COAST PILOT KIND. PRICE $1. ADDRESS MARINE REVIEW, 516 PERRY-PAYNE BUILDING, CLEVELAND, O. WE HAVE NO HESITANCY IN RECOMMENDING THIS BOOK.

General Change in Salaries of Inspectors.

In four or five congresses the senate has passed a bill equalizing the salaries of inspectors of boilers and hulls in the various districts of the United States, but certain influences in the house have up to the present week prevented the measures becoming a law. Present salaries were fixed in 1871, and then they were fixed equitably, upon the basis of inspections made in the various districts. But changes have taken place, so that now the inspectors at Louisville, Ky., for instance, who inspect fifty-seven vessels a year, are each paid $2,000 per annum, while the inspectors at Cleveland, who inspect more than 300 vessels receive only $1,500. Similar differences exist regarding other districts.

In the house on Monday last Congressman Wise of Virginia, chairman of the committee on commerce, managed to secure consideration of the senate bill, which not only equalizes the salaries but makes a saving on the whole of $18,000 for the government. Some opposition was made by a few congressmen whose constituents will be hurt by it, but the justice of the measure secured its passage by a two-thirds vote. There is no doubt of the unimportant differences in the senate and house measures being fixed by conference in time to have the bill go to the president before adjournment. Nearly all of the inspectors on the lakes will have their salaries increased by the bill, some of them as much as $750. The act takes effect July 1, 1894, so that if this feature of it is not changed in final passage, a neat sum in back pay will also be due these officials.

The bill provides for districts inspecting less than 150 steamers a salary of $1,500 per year; 150 and less than 200 steamers, $1,800; 200 and less than 300 steamers, $2,000; 300 and less than 500 steamers, $2,250; 500 steamers and upward, $2,500. Another important feature of the law involving some changes is as follows: "The supervising inspector-general shall report to the secretary of the treasury, at the end of each fiscal year, the number of steamers inspected in each local district in that year, which number shall be the basis upon which shall be determined the salaries to be paid to local inspectors for the following fiscal year. And, in addition, the secretary of the treasury may appoint upon the nomination of the supervising inspector of the district, in collection districts where there are 225 steamers and upward to be inspected annually, assistant inspectors, at a salary, for the district of New York, of $2,000 a year each; for the district of New Orleans, La, Philadelphia, Pa., Baltimore, Md., Boston, Mass., and San Francisco, Cal., at $1,800 per year each, and for all other districts at a salary not exceeding $1,600 a year each; and he may appoint a clerk to any such board at a compensation not exceeding $1,200 a year to each person so appointed. Every inspector provided for shall be paid for his actual and reasonable traveling expenses at the rate of 8 cents per mile, incurred in the performance of his duty, together with his actual and reasonable expenses for transportation of instruments, which shall be certified and sworn to under such instructions as shall be given by the secretary of the treasury."

Lunar Rainbows.

An Associated Press dispatch from San Francisco, date of February 13, tells of a lunar rainbow, witnessed on January 11 by officers of the steamer Colon, which arrived from Panama. The dispatch says this is the first evidenced lunar rainbow since the 16th century, but Mr. Robert H. Day, 210 Hammond building, Detroit, takes exception to this latter statement, and refers to evidence printed in the MARINE REVIEW in November, 1891. At that time the following paragraph appeared in the REVIEW:

"I feel like a martyr every time I tell this story," said the captain of one of the Mutual line steamers of Cleveland, "but I keep on telling it, hoping to find some one who will believe it. Years after I am laid away some scientific land lubber will discover it and get two or three letters added to his name. We were on Lake Superior one night, as pretty a moonlight night as I ever saw, when a few rainclouds gathered in the west and within an hour let down a warm summer shower in the moonlight. The shower and the moonlight was a poem, but imagine my surprise on seeing a dim rainbow forming. It only lasted a few moments, and I never expect to see another rainbow by moonlight, but I saw that."

Immediately following the appearance of the above paragraph, Mr. Day wrote the REVIEW on Nov. 7, 1891, as follows: "I notice an article in your Nov. 5 issue from a captain who claims to have seen a rainbow at night and fears that in telling the story someone will think he imagined it. If he refers to the evening of Saturday, Sept. 17, 1891, he is not the only one who saw the phenomenon. The steamer Livingstone was loading at the Washburn elevator and I had occasion to be aboard her at that time, and saw the rainbow in the west at half past eight standard time. The colors, two of them, could be distinctly made out. It had been raining up to seven o'clock and the moon was just creeping out. The bow was but a short distance above the horizon and lasted about five minutes."

FOUR steel engravings of U. S. war ships and a color plate of the steel steamer Gratwick will be forwarded by MARINE REVIEW, 516 Perry-Payne Bldg., Cleveland, O., to any address on receipt of $1.

The New Torpedo Boats.

Although the Globe Iron Works Company of Cleveland entered into preparations to bid on the torpedo boats for which bids were opened by the navy department Tuesday, the matter was called off by delay in securing specifications upon which a great deal of preliminary work was required. It is probable, anyhow, that there would have been nothing gained by a bid going to the department from the lakes, in view of the following letter from Secretary Herbert to the officers of the Detroit Dry Dock Company, who were also considering the question of bidding on these boats:

NAVY DEPARTMENT,
Washington, Nov. 13, 1894.

GENTLEMEN: In answer to your letter of the 10th inst, requesting that you be furnished with the necessary plans and specifications and be given an opportunity to submit a bid for the construction of the three torpedo boats authorized at the last session of congress, I have to inform you that the department can not, under existing treaty stipulations with the British government, award a contract for the construction of a vessel of war upon the great lakes. In view of this fact I presume you would not desire that plans and specifications of said vessels be sent you.

To Detroit Dry Dock Company,
Detroit, Mich.

H. A. HERBERT,
Secretary.

It is certainly strange that ship builders of the lakes do not unite in trying to overcome the disadvantages under which they are placed on account of this ancient treaty matter. They have in their power to do so, if a united effort is made.

According to reports from Washington bids opened for the three torpedo boats on Tuesday were complex and it will require much time and examination by the depaatment experts to come to a conclusion as to where the contracts will be bestowed. Under the department's designs, Hugh Ramsay of Perth Amboy, N. J., has the lowest bid at $347,000 for the three boats, but he, as well as everybody else, is much underbid when it comes to original designs by the Columbian Iron Works of Baltimore, which submits an aggregate bid of $292,500 for the three boats. The figures are not a sure indication of what the department will do in the matter for there are many considerations to take into account, such, for instance, as the additional cost of sending a boat around to the Pacific coast where it is needed, the expediency of using bronze and aluminum instead of steel, and the propriety of taking up the offer of the Union Iron Works to build a large 28-knot boat like the most speedy and modern of the British torpedo boats. This last proposition is not in conformity with the advertisement, but if it is possible to build this boat and have enough money left to construct two other smaller boats, it may be that such an arrangement can be made.

Big Lighting Contract.

The largest contract ever made for marine electric lighting on the lakes, for freight boats, has been closed with the Chicago Ship Building Company by the Fisher Electric Manufacturing Company of Detroit. It is for a total of seven direct connected engines and dynamos and 875 lights. The two 400-foot freight steamers building for the Zenith City Transit Company and the Interlake Transit Company will each be equipped with two direct connected engines and multipolar dynamos, to operate 250 lights each. Each of the three barges, two for the Minnesota Steamship Company and one for John Corrigan and others of Cleveland, will have a direct connected set and 125 lights each. The carrying capacity of the boats included in this contract will amount to over 20,000 tons.

Additional Lights.

In addition to the list of lights, fog signals, etc., provided for the lakes in the sundry civil appropriation bill as it passed the house, and as reported in a recent issue of the REVIEW, the following amendments have been added in the senate and are now before that body for consideration: Range lights in Maumee bay, Lake Erie, $20,000; completion of lighting of north and south ends of Grassey island, Detroit river, $6,700; fog signal at Eagle harbor, Lake Superior, Mich., $5,000; light and bell at Grand Marais harbor of refuge, on Lake Superior, $15,000; Tibbet's point light station, Lake Ontario, fog signal, $4,000.

Through the efforts of one of the sales agents of Cleveland, vessel owners having boats trading to Ashland requested the Chicago & Northwestern Railway Company to have the chutes in the docks now being rebuilt lengthened to 28 feet. The railway company has answered that the matter has received consideration and chutes will be lengthened to 27 feet. This is the best that can be done without materially changing the pockets, which would be impossible, as the framing is too far advanced and timber nearly all out. It is expected, however, that the length of 27 feet will be generally satisfactory.

England is certain to delay enforcement of the international rules for preventing collisions at sea, which were to go into effect generally next month.

Compass Courses and Distances.

The following tables of corrected compass courses and distances were recently prepared by Frank Morrison of Cleveland:

CORRECTED COMPASS COURSES.

Lake Erie.	Course.	Miles.
Buffalo to Long point	W by S ¾ S	63¾
Long point to Dummy	W by S ⅝ S	134
Buffalo to Erie	SW ¾ W	76½
Buffalo to Ashtabula	SW by W ¼ W	117
Buffalo to Fairport	SW by W ½	143
Fairport to Cleveland	SW ½ W	29
Buffalo to Sandusky	SW by W ⅞ W	216
Erie to Dummy	W ¾ S	126
Ashtabula to Dummy	W ¼ S	88
Fairport to Dummy	W ⅜ N	62½
Lorain to Dummy	NW by N	30
Sandusky to Dummy	NE by E ½ E	

Lake Huron.	Course.	Miles.
Fort Gratiot to Sand Beach	N ⅝ W	58½
Sand Beach to Thunder bay	N by W ½ W	87½
Thunder bay to Presquile	NW by N ¾ N	26½
Presquile to Forty-Mile point	NW by W ⅝ W	47
Thence Sheboygan light	West	8
Presquile to Detour	NW by N ⅛ N	45
Detour to Cheboygan	SW ⅝ W	30
Detour to Bois Blanc	W by S ½ S	26¼
Thence to Straits of Mackinac	West	9¾

Straits of Mackinac.	Course	Miles.
Cheboygan to Mackinac	NW by W¼ W	19
Mackinaw Point to Waugoshance	West	18½

Lake Michigan.	Course.	Miles.
Waugoshance to Pt. Betsey	SW ⅝ S	65½
Pt. Betsey to Chicago	S by W ¼ W	207
Waugoshance to Milwaukee north of Manitous	SW ⅜ W	62
Thence	SW by S ⅝ S	177
Waugoshance to Poverty north of Beavers	W ½ N	14
Thence	SW by W ½ W	58
Waugoshance to Beavers	SW ½ W	27
Beavers to Poverty	W ½ S	55
Chicago to the Door	N ⅜ E	238
Milwaukee to the Door	N by E ⅛ E	159½

Lake Superior.	Course.	Miles.
Iroquois to Whitefish point	NW ¾ N	25¼
Whitefish point to Sable point	W ½ S	56¾
Thence to Marquette	W by S ¼ S	60
Whitefish to Huron island	W ¼ N	145
Thence to Portage entrance	W ½ S	20
Whitefish to Copper Harbor	W by N ⅝ N	145½
Copper Harbor to Eagle Harbor	West	7
Thence	W by S	8
Eagle Harbor to Devil Isle	W by S ½ S	124
Devil Isle to Duluth	SW by W ½ W	68
Eagle Harbor to Two Harbors	W by S ½ S	168
Eagle Harbor to La Point	SW by W ½ W	135

DISTANCES.

	Erie.	Ashtabula.	Fairport.	Cleveland.	Escanaba.	Milwaukee.	Chicago.	Marquette.	Ashland.	Two Harbors.	Duluth.
Buffalo	80	117	143	173	696	825	892	760	949	973	998
Erie	.....	43	73	101	626	756	822	691	880	904	928
Ashtabula	.....	.....	27	56	585	715	781	650	839	863	887
Fairport	.....	.....	.....	30	563	693	759	628	817	841	865
Cleveland	.....	.....	.....	.....	544	674	739	609	798	822	846
Escanaba	.....	.....	.....	.....	....	201	275	339	578	602	626
Milwaukee	.....	.....	.....	.....	.....	.....	83	519	708	732	755
Chicago	.....	.....	.....	.....	.....	.....	.....	584	773	797	820
Marquette	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	279
Ashland	.....	.....	.....	.....	.....	.....	.....	.....	.....	72	94
Two Harbors	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27

Distances to Chicago are by south passage; if by middle passage add nine miles; if west passage add 17 miles to the distances to Lake Superior and Lake Erie ports.

Rumsey in Cairo.

A letter received this week bore two blue stamps, on which were engraved the sphinx and the great pyramid, indicating that the REVIEW had a correspondent in the land of the Nile and the Suez canal. The picture herewith, which was enclosed, will show that it came from A. R. Rumsey, the irrepressible shipping master, who had reached Cairo in his globe trotting journey. The letter and picture describe and illustrate his pilgrimage in the holy land. He begins by saying that the weather

is too fine for a "bloke" like him to spend much time in letter writing. He had intended, he says, to write from Jerusalem after his return from Jericho and the Jordan, but the pictures were not ready and he awaited the finishing of them. At Alexandria he fell in with an "Irishman from India" and they took ship for Joppa or Jaffa, and thence to Jerusalem by rail. "We made arrangements at once," he adds, "for donkeys, dragomen and grub and started for Jericho, the Dead sea and the Jordan, making the trip in two nights and two days. But if you ever saw two tough looking specimens it was us. The people at Jerusalem say we were the only two men who ever made the trip in such time."

"Well, I will tell you what I saw in Jerusalem. I went to the Church of the Holy Sepulchre, the tomb of the Virgin Mary, the Garden of Gethsemane, Church of St. Stephen and the Mount of Olives. I also went to Bethlehem, the birthplace of Christ, and many other places of interest. I will tell you some strange things when I see you. This has been a long and tedious trip all alone, but I have made the most of it. Tonight (in Cairo) I shall go to a boxing show. The names of Sullivan and Corbett can be heard on the street at any time, but you never hear of President Cleveland or any other prominent American, living or dead.

"I will leave this man's town tomorrow," he says in concluding the letter, "for Ismalia, where I will sail Jan. 31 on a Peninsular and Oriental steamer for Columbo. One trip around the world going fast will be enough to make any man keep quiet the rest of his life. The Lake Carriers' Association will never have any more trouble with me about trips. I never knew how grand our own country was until I got among these French, Italians, Turks and niggers—nothing good to eat or drink. Enclosed you will find my mug and my donkey with my two dragomen, on my way to the Jordan from Jerusalem.

Hotel Bristol, Cairo, Egypt, Jan. 29, 1895.

A. R. RUMSEY.

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store and afloat at the principal points of accumulation on the lakes on Feb. 16, 1895:

	Wheat, bushels.		Corn, bushels.	
	In store.	Afloat.	In store.	Afloat.
Chicago	25,429,000	1,437,000	4,378,000	1,348,000
Duluth	9,699,000	85,000	1,000	.....
Milwaukee	581,000	.....	.....	.....
Detroit	1,308,000	257,000	100,000	.....
Toledo	2,762,000	337,000	870,000	.....
Buffalo	3,586,000	314,000	143,000	684,000
Total	43,365,000	2,430,000	5,492,000	2,032,000

Pleading for More Torpedo Boats.

Congress is now considering the naval appropriation bill, and in support of an appropriation for the construction of twelve torpedo boats the navy department a few days ago furnished the house of representatives with a statement showing the number of boats of this kind either built or building by foreign powers. France leads with 255, while England has 239. The full statement follows:

TORPEDO BOATS OWNED BY MARITIME NATIONS.

Nation.	Number on hand.	Number authorized and building.
Argentine	22	.....
Austria	64	.....
Brazil	22	.....
Chile	22	Some
China	32	.....
Denmark	29	.....
England	175	64
France	214	41
Germany	127	.....
Greece	51	.....
Holland	39	3
Italy	177	10
Japan	26	23
Russia	163	14
Spain	24	24
Turkey	53	3
*Sweden and Norway	53	.....
Total	1,283	182
United States	3	3

*Sweden 42; Norway 11.

Contracts have not as yet been let for the three boats authorized by the United States. France has, in addition to the number of torpedo boats noted, three submarine boats in commission and one building. Germany built eight torpedo boats last year but there are none in this year's budget. Italy also has one submarine boat and one building.

The report also contains the following table showing the effective force of leading maritime powers, and from which transports, torpedo boats, gun vessels and gun boats and other small craft are excluded:

EFFECTIVE FORCE OF LEADING NAVAL POWERS JAN. 1, 1895.

TYPE.	Great Britain.	France.	Germany.	Italy.	Spain.	United States.
Armored.						
Battle ships	43	18	13	9	1	6
Coast-defense vessels	12	21	17	5	5	7
Cruisers	18	4	2	4	2	2
Total armored	73	43	32	18	8	15
Unarmored.						
Cruisers, protected	59	16	4	12	4	3
Cruisers	85	35	13	16	15	3
Torpedo vessels	34	16	18	14	8	...
Total unarmored	178	43	35	42	27	16
Total armored and unarmored	251	110	67	60	35	31

Foolishness of Vessel Taxation.

The Maritime Register of New York, a journal that is devoted mainly to reporting movements of vessels in all parts of the world, but which gives up a limited amount of space each week to the discussion of legislative measures and other matters pertaining to shipping, has of late published a number of interesting articles on the subject of taxation of vessel property. The articles have all tended to show the injustice of local taxation as applied to this class of property. Following is a summary of the arguments advanced in this direction:

"Vessel property offers so fair a prize for plucking that local tax assessors seldom resist this opportunity so fortunately thrown in their way, apparently by a special providence. The opportunity of sparing other property by shifting part of its burden upon what seems to come from the outside is simply too good to be allowed to go unused. That there might be injustice in this, that an industry might be permanently injured and that a community might ultimately meet with heavy loss from this proceeding are unnoticed. Local assessors consider the matter from the view point of Colbert, the French finance minister, 'that the act of taxation consists in so plucking the goose (in this case, shipping) as to procure the largest quantity of feathers with the least possible amount of squealing.' But the squealing became loud some time ago While our shipping paid good profits little was heard against taxes imposed upon it. But a decline in its prosperity led to inquiry into the reasons for this and it was found that local taxations formed no inconsiderable cause.

"Loss of profits is no excuse why property should not bear its proportion of the expense for governmental work, local or state. But in the case of shipping it must be admitted that local taxation is not equitable. Chief Justice Marshall said in a celebrated case: 'All subjects over which the sovereign power of the state extends, are objects of taxation; but those over which it does not extend, are, on the soundest principles, exempt from taxation. The sovereign power of the state extends to everything which exists by its own authority or is introduced by its permission.' Now the most hardened tax assessor, the most grasping of town authorities, the most strenuous for its rights of any state of the union, will hardly claim that shipping is a thing which the town or state can say 'exists by its own authority, or is introduced by its permission. No American vessel of any kind has a legal existence except by permission of the national government. No American vessel expects protection except from the national government. From what port soever an American vessel may hail, all her documents of identity, protection, and legal ownership are granted by the national government only. In fact it may be said that nothing else belonging to us as a nation, is so distinctly national, so entirely disassociated from all matters state or local, as the merchant marine. It is as singularly apart from all but the nation at large, as the army and navy. Any taxes upon it should be made by the national government. Indeed, the tonnage tax is an evidence of this power of the national government to impose one. And it is scarcely a question whether it is not the only sovereign power that has this right. It is yet to be shown where any town, or county, or state has given any help or protection or benefit for the taxes that it has imposed upon shipping.

"Whether some states or localities recognizing the 'facts' before set forth as sufficient reasons, or fearing the entire loss of shipping property that might be a source of wealth to their citizens and through these to themselves, many of these have abolished taxes upon shipping. Whatever the reasons, the act must be accepted thankfully. Other places, however, especially a few dependent largely upon citizens owning shipping property, still continue to look to vessels as good objects of taxation. They can not be reasoned into doing otherwise. They probably never heard of that over sanguine farmer who, not satisfied with the favors the gods gave, killed the goose that gave him golden eggs. Milwaukee and other lake ports are among the latest examples of this peculiar form of asininity. Vessel owners in these places find that they can not stand the exorbitant taxation levied upon them. They are determined to move and change the hailing port of their vessels. What more could be expected.

"Neither Milwaukee, nor any other port, protects vessels even if these vessels trade directly with or are owned in Milwaukee. This is too evident to need explanation. Through the purchase of supplies and in many other ways vessels pay for all the local protection they get. But this will not be found out until the golden goose is killed, and it is seldom that another goose of such good qualities is to be secured."

Case Propeller Wheel.

There are probably a hundred or more different types of propeller wheels in use in the United States. There are, also, numerous inventions in this line that have never been tried, and when a new one is brought out the inventor is forced to meet all kinds of criticism and back his wheel with guarantees of no speed improvement no pay. The latest successful inventor of a propeller is A. Wells Case of Highland Park, Conn. It is not necessary to go into the details of Mr. Case's claims, as a forty-page illustrated pamphlet covering the whole ground will be furnished on application. The most noted cases of successful application of the wheel are on Beall Bros'. Glad Tidings at Alton, Ill., and on Mr. Ladew's Orienta, New York. Mr. Ladew says the Case wheel is the best wheel ever put on the Orienta.

The Protection of Ship Building.

Editor MARINE REVIEW: In relation to the criticism of Mr. M. E. Ingalls made at Cincinnati on the protection of ship building, in which he vents his opposition to it, permit me to offer a word in reply. If Mr. Ingalls will read the famous report of Thomas Jefferson, in 1791, on the question of the fisheries and other matters connected with the maritime defence of the United States, he will find it was considered in those days that the nation had an interest in ship building. Mr. Jefferson's report was followed by the enactment of protection to ship building in 1792, not only to secure it as a trade, which was wise and well, but mainly to enable the government to protect itself, and to perpetuate the freedom of the people by the possession of a military art and sea power at all times at their command.

WM. W. BATES.

Chicgo, Ill., Feb. 18, '95.

MARINE REVIEW

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 516 Perry-Payne building, Cleveland, O.

SUBSCRIPTION—$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,341 vessels, of 1,227,400.72 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons and over that amount on the lakes on June 30, 1894, was 359 and their aggregate gross tonnage 634,467.84; the number of vessels of this class owned in all other parts of the country on the same date was 316 and their tonnage 642,642.50, so that half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1894, was as follows:

Class.	Number.	Gross Tonnage.
Steam vessels	1,731	843,239.65
Sailing vessels	1,139	302,985.31
Canal boats	386	41,961.25
Barges	85	39,214.51
Total	3,341	1,227,400.72

The gross registered tonnage of vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	Number.	Net Tonnage.
Year ending June 30, 1890	218	108,515.00
" " " 1891	204	111,856.45
" " " 1892	169	45,168.98
" " " 1893	175	99,271.24
" " " 1894	106	41,984.61
Total	872	406,976.28

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC.

	St. Mary's Falls Canal.			Suez Canal.		
	1893.	1892.	1891.	1893.	1892.	1891.
No. vessel passages	12,008	12,580	10,191	3,341	3,559	4,207
Ton'ge, net regist'd	9,849,754	10,647,203	8,400,685	7,659,068	7,712,028	8,698,777
Days of Navigation	219	223	225	365	365	365

Entered at Cleveland Post Office as Second-class Mail Matter.

IN RECENT issues the REVIEW has published several statements from owners of lines of steel steamers engaged in the iron ore trade, giving full detail regarding days in commission, cargoes carried, miles run, average speed, fuel burned, etc. All information contained in these statements is of special value to the experienced owner or manager of vessel property, while to the general reader they give an idea of the exactness with which the business of operating costly ships on the lakes is now conducted. The showing made by all of the liners represents big reductions over previous years in operating charges. A feature of the statements is the performance of the steamer Pioneer, which holds the record of trips in the ore trade for last season. The Pioneer is not among the largest of lake steamers, although she is a modern boat. She was built by the Detroit Dry Dock Company and is owned by the Cleveland-Cliffs Iron Company. Her length of keel is 225 feet, beam 35 feet and moulded depth 17.5. Her triple expansion engines have cylinders 20, 33 and 54 inches diameter, the common stroke of piston being 40 inches. Her boilers, of the Scotch type. are 12 feet diameter and 11.5 feet long, allowed 160 pounds of steam, and an advantage claimed for her is that she is fitted with the Howden system of hot draught, which admits, according to the claims of its supporters, of advantages in speed on economical fuel costs and with the use of cheap fuel. The company operating the Pioneer has probably gone as far as any of the lake steamship companies in reducing operating expenses by using low-priced fuel to the best possible advantage, so that her performance has not been under special advantages. This boat made thirty-seven trips to Lake Superior, carrying forty-one cargoes, of which three were return loads of coal. Three of the trips were to the head of Lake Superior, and all others to Marquette. Three of the cargoes of coal were taken to Marquette and one to Detour. The boats' days in commission numbered 234, of which 66 were days in port, 155 were sailing days, 4 were days lost by bad weather, 8½ days of waiting at the Sault canal, and one-half day lost by accident. In this period she carried 63,406 tons of freight and traveled 47,144 statute miles at an average speed throughout of 12.71 miles per hour. The net tons of fuel used in this performance was 4,021 and the average pounds of fuel per mile was 170. Of course in order to make such a showing in less than eight months' service, this boat was unloaded in a number of instances in 6½ to 8 hours, but it is doubtful if her record has ever been equaled elsewhere in the world. And then, too, she is now only a medium sized carrier among boats that will far surpass her in freight moved.

CLEVELAND'S chamber of commerce is about to make a move worthy of the attention of commercial organizations in other lake cities, that are often called upon to take action on subjects pertaining to shipping on the lakes. It is proposed to organize within the general body a maritime board, that would be capable of acting intelligently and promptly on all matters of a maritime kind. The plan outlined to the Cleveland organization by its executive officers suggests that such a board could find a field for work in the collecting and dissemination of general marine news of interest to its members; and a care for the commercial business of the port. It could, when occasion demands, be prepared to consider quarantine matters, marine bills of lading, questions affecting the life saving service, the marine hospital service, maintenance and advancement of government marine improvements, harbor facilities and improvements, have a voice in the appointment, without regard to their politics, of city officials whose work touches navigation interests, work in harmony with the hydrographic service, widening and improving its work whenever the peculiar needs of lake commerce may suggest, take action in the matter of bridges and obstructions in the navigable rivers of the great lakes, the manner and extent of dredging in the Cuyahoga, keep a record of charters, of clearances, and arrivals, of light-house notices, have a list of vessels in port, an abstract of logs; keep for reference commercial circulars, code books, harbor rules and regulations of other ports, and act for the enforcement of proper rules and regulations of this port. It can consider the question of towage rates, the organization of seamen's charities, the organization of a state naval reserve, illegal dumping of refuse in the harbor, advocacy of arbitration in marine cases, the improvement of abuses in government methods related to our commerce, regulation of demurrage rates, the advocacy of legislation that will insure correct tonnage reports of all vessels clearing at all harbors, and many other similar subjects that may suggest themselves.

WITH a view to bringing about entire uniformity in rules for vessels meeting and passing on the lakes, it would seem that Canadian owners and masters of lake vessels should join in the request of the Lake Carriers' Association, that the Canadian government make such changes in its rules as will conform to the special law recently adopted by congress for the lakes. The matter has been officially presented to the Canadian department of marine and fisheries by officers of the Lake Carriers' Association, and if necessary representatives of the association will very probably visit Ottawa in support of the proposed changes.

IN FAIRNESS and justice to the vast army of marine engineers, whose calling is honorable and whose training is a task involving years of skilled service, it must be said that they are fully justified in complaining when in cases like that of the French transatlantic liner La Gascogne, saved from loss through skillful work in repairs to broken machinery, they are entirely ignored in the joys and praises that greet a ship's arrival in port, when the worst is feared regarding her.

IF IT IS true that Japan is to contract for the building of two or three battleships, it would seem that the Cramps should, with the present condition of orders at their yard, be in a position to compete with British builders for the work, if the matter of prices, which involves higher labor costs here, is not as important as that of prompt delivery of the ships.

France has a triple-screw cruiser, the Dupuy-de-Lome, 6,300 tons, which has, after repeated alterations, failed to answer satisfactorily the demands made on her. She is a long, narrow vessel, and the three sets of engines constantly hamper one another. The vessel was launched in 1890 but is still in the experimental and alteration stage. The great degree of success in this country with three screws in the Minneapolis and Columbia is well understood, but these vessels, in addition to greater lengths, have nearly seven feet more beam than the Dupuy-de-Lome.

Details of the new type of car dumping machine being constructed by the Brown Hoisting and Conveying Company for service at Ashtabula are not complete, and on this account the company is unwilling to give out a description of the device, so that as yet it is simply understood that the plan in a general way is to dump the cars sidewise by hydraulic power, allowing the coal to slide under a hood into five-ton buckets, the latter being handled by a system of hoisting and conveying machinery somewhat similar to that used on the ore docks.

In Case library, Cleveland, an effort is being made to secure an extensive collection of literature pertaining to the great lakes.

Illustrated Patent Record.

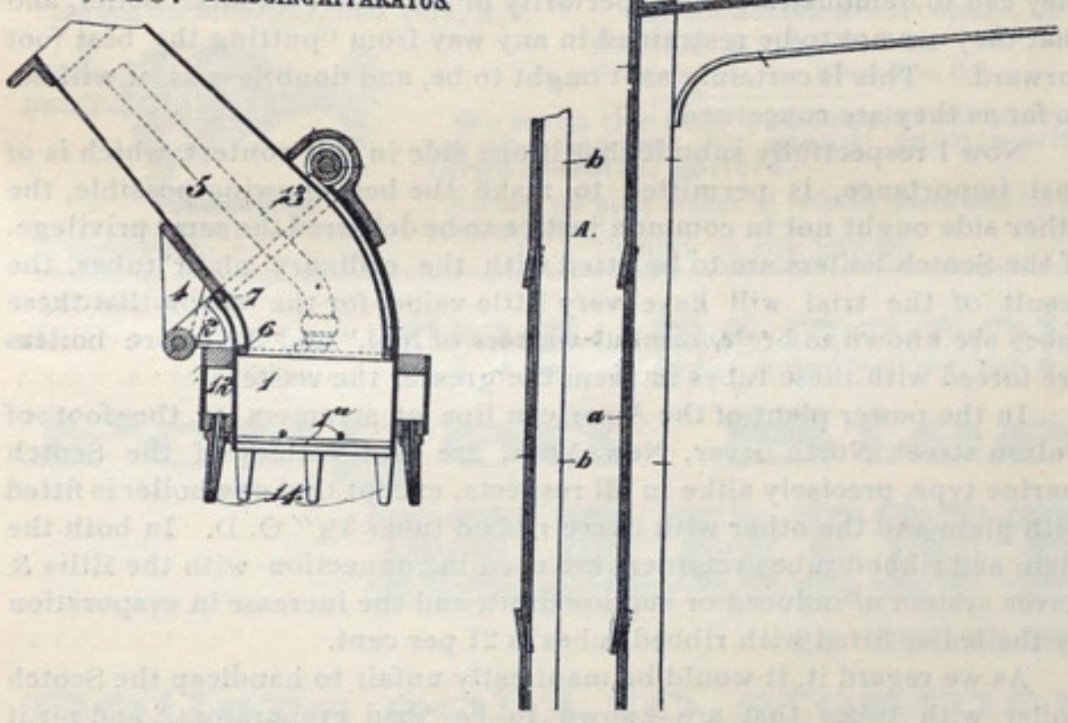
SELECTED ABSTRACTS OF SPECIFICATIONS OF A MARINE NATURE—FROM LATEST PATENT OFFICE REPORTS.

534,149. Dredging Apparatus. John Gwynne, London, England. Filed Dec. 29, 1893. Serial No. 495,040.

Claim. In a dredging apparatus a suction pipe having a portion curved to the arc of a circle, provided with a separate mouth piece similarily curved and arranged telescopically one within the other, and a water tight chamber carried by said mouth piece and having an inlet and an outlet for water under pressure, said suction pipe and mouth piece being hinged or joined together with the axis of the hinge coinciding with the center of said curves.

534,183. PLATING FOR VESSELS, &c.

534,149. DREDGING APPARATUS.



534,183. Plating for Vessels. William Stewart, Liverpool, England. Filed Aug. 16, 1894. Serial No. 520,496.

Claim. In plated structures, such as navigable vessels, pontoons and the like, the combination with the frames or beams, of rows or strakes of plating connected by lap joints in which the overlapping edges of the plates are bent away from each other, the one inward and the other outward, and the said inwardly turned edges of the plates cut away to form channels *c* to receive the frames or beams and permit the inner surface of all the plates to come in close and even contact with said frames or beams.

Around the Lakes.

Cap'. John Mitchell of Cleveland has gone to Florida.

The late Thomas Davidson, vessel owner of Milwaukee, left an estate valued at $225,000.

The Toronto Dredging and Contracting Company, capitalized at $50,000, is the name of a new corporation of Toronto, Ont.

Capt. L. M. Tyler, who for twenty years commanded steamers of the old Northern Transportation Company's fleet on the lakes, died at Pulaski, N. Y., Feb. 15.

Buffalo's merchants' exchange has endorsed in a very strong manner the movement in the Lake Carriers' Association to get rid of the boss scooper system in the grain unloading business.

Ensign Cole, U. S. N., in charge of the Cleveland branch hydrographic office, entertained the Cleveland lodge of ship masters, Wednesday, with a very interesting talk on navigation matters.

Angus McDougall is sending out a formal announcement of his intenion to conduct in the future a vessel and insurance agency in Duluth. He has taken up offices in the Duluth board of trade building.

A car ferry service between Chicago and Milwaukee is now talked of for the Pabst Brewing Company. It would seem that a very large volume of brewery business would be required to support a car ferry line.

Superintendent Chapman of the ninth life saving district is making arrangements to have weather signals displayed at Marblehead and Fairport, Lake Erie, and at Fort Niagara and Charlotte, Lake Ontario.

Charles W. Copeland, who was at one time supervising inspector of steam vessels in New York and who superintended the construction of a large number of steam vessels, notably the U. S. S. Michigan on the lakes, died at his home in Brooklyn a few days ago.

Members of the Civil Engineers' Club of Cleveland were entertained at the works of the Globe company, Cleveland, on Saturday last. They were especially interested in the Belleville tubulous boilers being built for the second of the Northern line passenger ships.

At Bell's ship yard, Buffalo, a steel tug is being built for the Lehigh Valley Railway Company, to be used at Fair Haven, Lake Ontario. The boat is to be 70 by 16½ by 9 feet draft, and will have a compound engine with cylinders 14 and 28 inches diameter by 22 inches stroke.

Copies of the chart recently issued by the weather bureau, showing the number and location of wrecks that occurred on the lakes in 1894, may be obtained by making application to the chief of the bureau, Washington, D. C. The REVIEW also has a few of them on hand for anyone calling for them.

No change will be made in masters of steamers of the Owen Transit Company on account of the change of management from W. R. Owen of Chicago to H. H. Clough of Elyria. Capt. J. Q. Owen will continue in command of the Ira H. Owen and Capt. George Merritt will be in charge of the Parks Foster.

Officers of the Cuyahoga Transit Company of Cleveland, controlling the steamer L. R. Doty, elected a few days ago, are as follows: President, Charles J. Smith; vice-president, Henry B. Smith; secretary, treasurer and manager, W. A. Hawgood; these with Harvy D. Goulder and C. C. Canfield make up the board of directors.

Owners of Canadian vessels on the lakes met in Toronto, Tuesday. to consider the advisability of forming an organization similar to the Lake Carriers' Association, which includes within its membership the owners of nearly all American vessels on the lakes. A committee on organization was appointed to report at a future meeting.

E. E Napier of South Haven, Mich., has made arrangements with the Graham & Morton Transportation Company to search for the wreck of the lost passenger steamer Chicora, as soon as ice breaks up on Lake Michigan in the spring. He is working on the theory that the Chicora foundered within a few miles of South Haven harbor.

Open sessions are a feature this winter of the educational work of the Cleveland lodge, Ship Masters' Association. Arrangements have been made for a series of practical talks on Wednesdays from local officers of the weather bureau and hydrographic service and from others who are capable of dealing with subjects of interest to vessel masters.

Capt. Ralph Lyons, last season in the Caledonia, is booked to sail the 400-foot steamer Zenith City, building at South Chicago, and it is of course expected that Capt. George Mallory, commodore of the Minnesota fleet, will sail the other new South Chicago boat of the same dimensions, which is to be owned in the offce of Pickands, Mather & Co, Cleveland.

Engineers of Marine City, the home of several of the most successful men in the lake business, and a town that turns out its full share of the best masters and engineers of lake ships, have favored the REVIEW with an invitation to their annual social gathering. The Marine City branch of the M. E. B. A. is named for the famous marine inventor, John Ericsson.

A. A. Heard of St. Louis has been appointed general passenger agent of the Northern Steamship Company, to succeed T. P. Carpenter, recently resigned. The appointment takes effect March 15. Mr. Heard will also act as eastern passenger agent for the Great Northern Railway. He has been for about five years assistant general passenger agent of the Missouri Pacific Railway.

A. B. Wolvin of Duluth has resigned the agency of the Western Transit Company in that city and will be succeeded by A. H. Evans, who has been the agent of the company in St. Paul and who will in future conduct both offices. It is said that the big 400-foot steamer building at South Chicago, and of which Mr. Wolvin is to be managing owner, will be named Zenith City, while the corporation owning her will be called the Zenith City Transit Company.

In accordance with a request made by the Lake Carriers' Association at its last annual meeting, Senator McMillan has introduced a bill in the senate providing for the establishment of wind signal stations at South Manitou island, Lake Michigan. Quite an expense will be connected with this service, as it will be necessary to put down a cable. It is not expected that an appropriation will be secured from the present congress, but the introduction of the bill makes a start in the matter.

It is probable that the Messers. Corrigan of Cleveland will soon contract for a steel consort for the steamer Bulgaria, in addition to the schooner to tow with the steamer Aurora, for which an order was recently given to the Chicago Ship Building Company. The Aurora's consort will be out about August 1 next and will be a monstor boat, as she is expected to carry 4,200 gross tons on the present draft from Lake Superior. Her owners have no fear of being unable of securing insurance on her on account of the entire absence of sail or spars of any kind in the boat.

A COPY OF THE PHOTO-GRAVURE SUPPLEMENT OF DIRECTORS OF THE LAKE CARRIERS' ASSOCIATION, TOGETHER WITH THE LARGE ENGRAVING OF THE STEAMER NORTH WEST, BOTH OF WHICH WERE CONTAINED IN RECENT BIG ISSUES OF THE REVIEW, WILL BE MAILED IN A PASTEBOARD TUBE TO ANY ADDRESS UPON RECEIPT OF 50 CENTS IN STAMPS.

Numerous Types of Tubulous Marine Boilers.

Tubulous boilers and parts of tubulous boilers designed or constructed by the following persons were passed upon by the board of supervising inspectors of steam vessels, who concluded their annual meeting in New York a few days ago: Thomas Fearon, Yonkers, N Y.; Chas. L. Seabury, Nyack, N. Y.; C. R. Cowley, Brooklyn, N. Y.; B. F. Squire, New York; W. J. Tierney & Wm. Marques, New Orleans, La.; Wm. Flagg, Bayonne, N. J.; Frank Printz, New Orleans, La.; Wm. Skelton, Jr., Buffalo, N. Y.; Chas. Ward, Charleston, W. Va.; C. F. Gallion, Baltimore, Md.; H. H. Taylor, Detroit, Mich.; Buchman & Layman, Baltimore, Md.; Thos. L. Sturtevant, Boston, Mass.; L. H. Stevens, New Albany, Ind.; E. D. Meier, Heine Safety Boiler, St. Louis, Mo; Chas. E. Parker, Orange, Texas; John Bonner, Tiburon, Cal.; Edward S. Clark Co., Boston, Mass.; Coller Steam Yacht and Engine Co., Detroit, Mich.; J. H. Mittendorf, Washington, D. C.; Chas. W. Foster, New Haven, Conn.; Halcyon Skinner, Yonkers, N. Y.; J. H. & Jacob D. Lucas, St. Louis, Mo.; R. C. Price, Alleghany, Pa: S. P. Hedges, Greenport, N. Y.; C. Reinhardt, Baltimore, Md.; Frank West, Morris Heights, N. Y.; Horace See, New York; W. C. McCaffrey and Chas. Hilbert, Sing Sing, N. Y.; George Harden, Detroit, Mich.; George Warrington, Chicago, Ill.; J. W. Dawson, Wyandotte, Mich.; Jacob H. Smith, Baltimore, Md.

Trade Notes.

The Bath Iron Works, Bath, Me., recently closed a contract with the Maine Coast Navigation Company for a small steamer to cost $50,000.

Boiler heads 10 feet 5 inches in diameter and of three-quarter inch thickness, weighing 5,500 pounds, were recently flanged at the Lukens Iron Works, Coatsville, Pa.

A twin-screw naphtha boat, 78 feet long and equipped with two 16 horse-power motors, will be built by the Gas Engine & Power Company, Morris Heights, N. Y., for W. H. Putnam, Jr., of New York city.

At the Atlantic Works, East Boston, Mass., a steel hull for a side-wheel passenger boat 180 feet long will be built for the Chesapeake & Ohio Railway Company. Engines will be built by the W. & A. Fletcher Co., of Hoboken, N. J.

Proprietors of the Soo Machine Works at Sault Ste. Marie, Mich., have purchased several new tools and made changes in their works that will enable them to give improved service in repair work that may be necessary to vessels during the coming season.

A movement is on foot at Bucyrus, O., to organize a local stock company for the purpose of manufacturing steam dredges and shovels. It is proposed to organize with a capital stock of $100,000, and to purchase the old works of the Bucyrus Steam Shovel and Dredge Company.

Mr. Ernest G. Joy has resigned his position with the Detroit Dry Dock Company to go with N. D. Carpenter, Detroit agent of the Carnegie Steel Company, and Mr. A. D. Black has been appointed purchasing agent for the dry dock company and the engine works, having full charge of that department.

In General.

If Pittsburgh people raise funds sufficient to make a preliminary survey for the Lake Erie-Ohio river ship canal, the work will be placed in charge of George M. Lehman, civil engineer of Philadelphia.

E. L. Corthell, eminent civil engineer who was Capt. James B. Eads' chief assistant in building the jetties at the mouth of the Mississippi river, is a sufferer from malignant epithelionia of the face and is now in Switzerland where he recently had four operations performed.

Eugene L. Maxwell of Manning, Maxwell & Moore New York, well known and highly esteemed in the machinery manufacturing world, died at Brooklyn recently. He was president of the Pond Machine Tool Company, the Ashcroft Manufacturing Company and the Shaw Electric Crane Company.

In England houseboats are used quite extensively as summer cottages, and a corporation known as the Houseboat Company has been formed in New York to promote the sale and use of them in that city. The plan is to establish a floating village near the metropolis, renting houseboats furnished or unfurnished to lessees.

The passenger steamer Australia arrived at Honolulu, it is reported from San Francisco, nearly forty-eight hours ahead of the cruiser Philadelphia, although the latter, it is said, had a start of about twenty-four hours. The Philadelphia's coal consumption, it is reported, averaged 110 tons a day, while the Australia made its time, it is said, on forty-one tons.

The Illinois Steel Company, which is capitalized at $25,000,000 and which is one the greatest of American iron concerns, earned $558,093 gross in 1894. Interest on bonds amounted to $527,486 leaving a net profit of only $30,607. The deficit in 1893 was $349,472, leaving the balance of deficit for two years $318,865. The output was larger in 1894 than it was in 1893. The balance sheet shows material on hand, cash, bills and accounts receivable, aggregating $9,398,742, less current accounts payable, etc., of $1,170,201. This leaves a balance of $8,228,541, exclusive of railroad bonds and stocks amounting to $3,414,535, making the total convertible assets $11,643,126. The wages paid in 1894 amounted to $3,071,394. The total amount of raw material received was 2,339,370 tons, and the quantity of finished material shipped was 536,446.

The Battle of the Boilers.

Editor MARINE REVIEW: I am very glad to notice from the letters of W. I. Babcock, Esq, manager of the Chicago Ship Building Company, and Commodore Geo. W. Melville, engineer-in-chief of the United States navy, in your issue of the 7th inst., that acting upon your suggestion we are to have a trial of the relative merits of the Scotch marine and Babcock and Wilcox type of boilers in two ships that are to be identical in all other respects. I assume from this statement that the Babcock and Wilcox company is to be permitted, and is indeed "expected," to do the best they can to demonstrate the superiority of the water tubular boiler, and that they are not to be restrained in any way from "putting the best foot forward." This is certainly as it ought to be, and doubtless as it will be, so far as they are concerned.

Now I respectfully submit that if one side in this contest, which is of vast importance, is permitted to make the best showing possible, the other side ought not in common justice to be debarred the same privilege. If the Scotch boilers are to be fitted with the ordinary plain tubes, the result of the trial will have very little value, for the reason that these tubes are known to be "enormous wasters of fuel," and the more boilers are forced with these tubes in them the greater the waste.

In the power plant of the American line of steamers at the foot of Fulton street, North river, New York, are two boilers of the Scotch marine type, precisely alike in all respects, except that one boiler is fitted with plain and the other with Serve ribbed tubes 3¼" O. D. In both the plain and ribbed tubes retarders are used in connection with the Ellis & Eaves system of induced or suction draft, and the increase in evaporation by the boiler fitted with ribbed tubes is 21 per cent.

As we regard it, it would be manifestly unfair to handicap the Scotch boiler with tubes that are known to be "bad evaporators," and pit it against boilers that are to be constructed on the most approved plan to develop their best points.

If we are going to have a trial of the different systems of boilers let us have a "fair" one, and with the most advanced appliances in each case, and we shall then have something that will be of real worth. The Serve ribbed tube is now in use or is being fitted in some eighty odd steamers and in over four hundred locomotives, so that there is nothing "experimental" about it. This point was passed some time ago.

Manhattan Life Building, CHAS. W. WHITNEY.
New York, N. Y., Feb. 14, 1895.

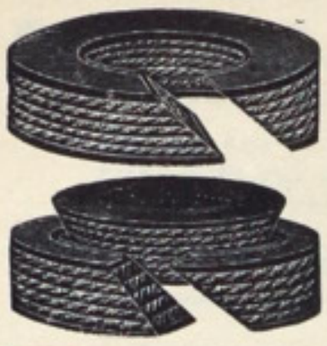
U. S. ENGINEERS OFFICE, Hickox Building. 185 Euclid avenue, Cleveland, Ohio, Feb. 6, 1895. Sealed proposals for excavating channel at Ashtabula Harbor, Ohio, will be received here until 2 o'clock p. m., standard time, Wednesday, March 6, 1895, and then publicly opened. All information furnished on application to JARED SMITH, Lt. Col. Eng'rs. Mar 1

U. S. ENGINEER OFFICE, 34 WEST CONgress St., Detroit, Mich., January 30, 1895. Sealed proposals for furnishing all labor, materials and appliances for A, Removing Portions of a Shoal at the Upper End of Hay Lake Channel and for B, Cleaning up Shoals near Nine Mile Point, Hay Lake Channel will be received here until 2 p.m. March 1, 1895, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application. O. M. POE, Col., Corps of Engineers, U. S. A., etc. Feb. 21.

OFFICE OF LIGHT-HOUSE ENGINEER, 9th and 11th District, Detroit, Mich., Feb. 11, 1895. Sealed proposals will be received at this office until 3 o'clock P. M., on Saturday, the 2d day of March, 1895, for furnishing the boilers for ten steam fog signals, in sets of two, delivered at the light-house depot at Detroit, Michigan. Plans, specifications, forms of proposals, and other information may be obtained on application to the undersigned. The right is reserved to reject any or all bids and to waive any defect. M. B. ADAMS, Major, Corps of Engineers, U. S. A., Light-House Engineer. 14-21

U. S. ENGINEER OFFICE, HICKOX Building, 185 Euclid avenue, Cleveland, Ohio, Fed. 1, 1895. Sealed proposals for removing and rebuilding a part of west pier at Fairport harbor, Ohio, will be received here until 2 o'clock p. m., standard time, Friday, March 1, 1895, and then publicly opened. All information furnished on application to JARED A. SMITH, Lieut. Col. of Engineers. 2-22

U. S. ENGINEER OFFICE, HICKOX Building, 185 Euclid avenue, Cleveland, Ohio, Feb. 1, 1895. Sealed proposals for dredging in Straight Channel through Maumee bay, Toledo harbor, Ohio, will be received here until 2 o'clock p. m., standard time, Friday, March 1, 1895, and then publicly opened. All information furnished on application to JARED A. SMITH, Lt. Col. Eng'rs. 2-22



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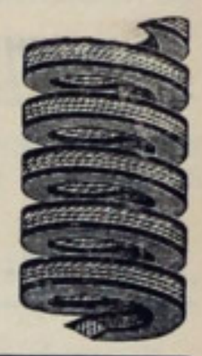

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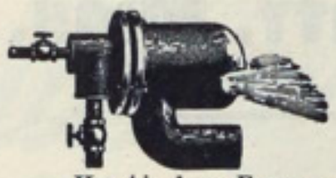

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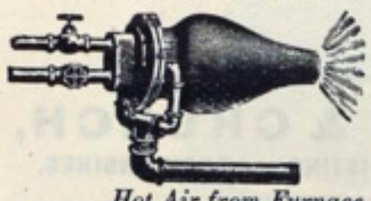

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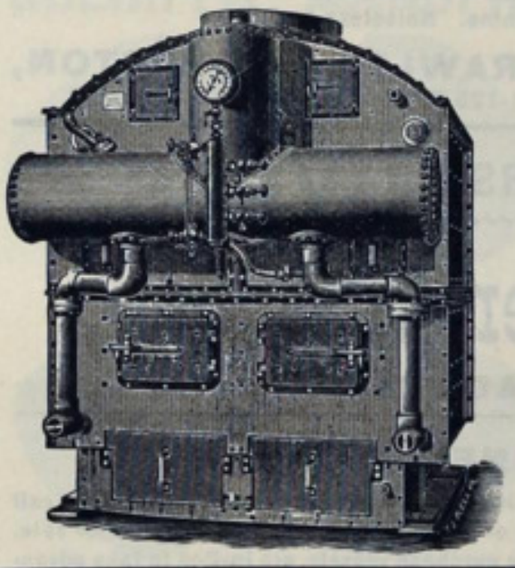

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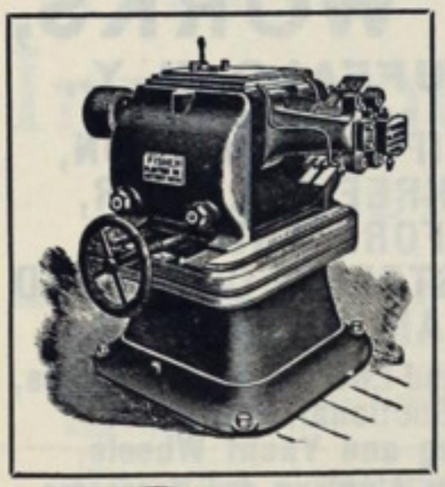

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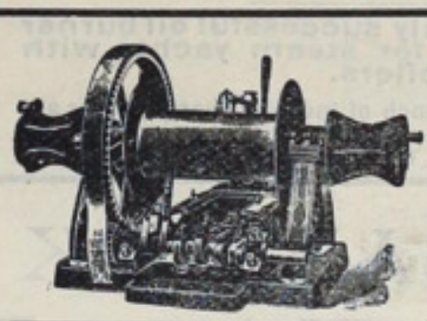

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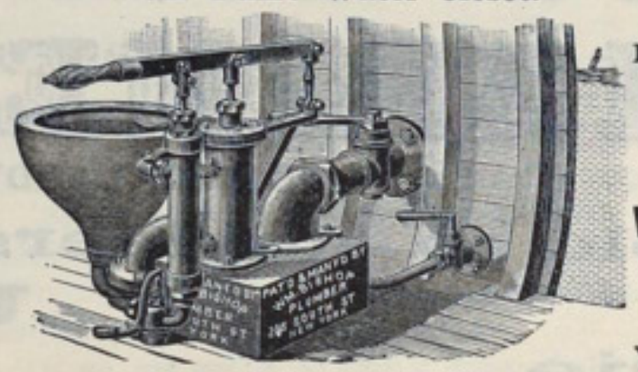

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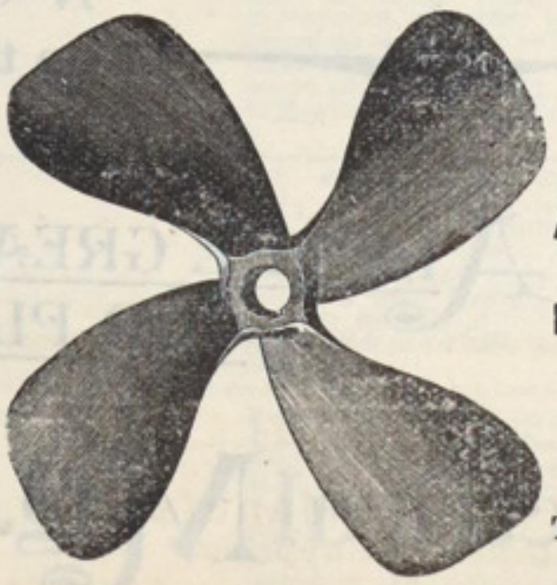

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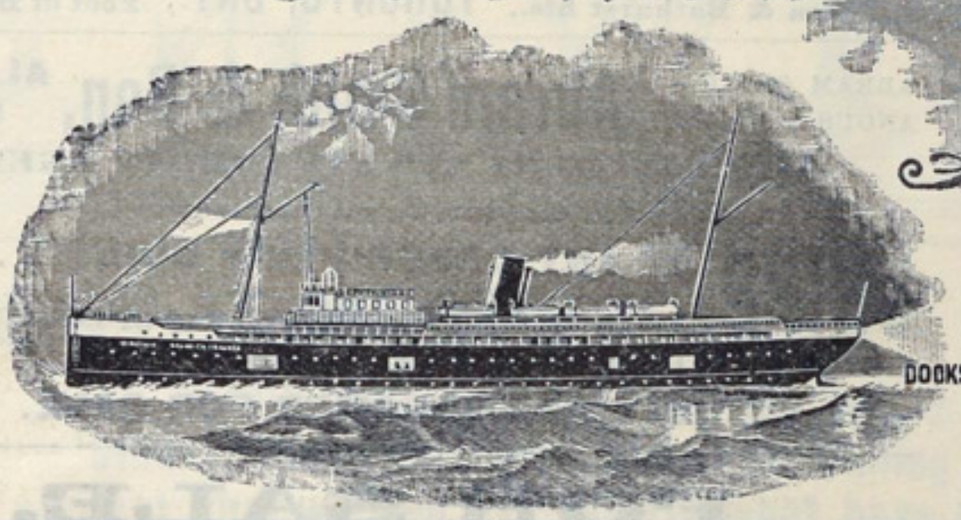

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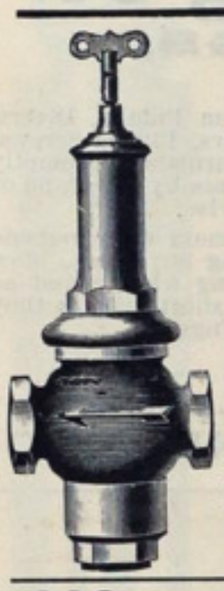

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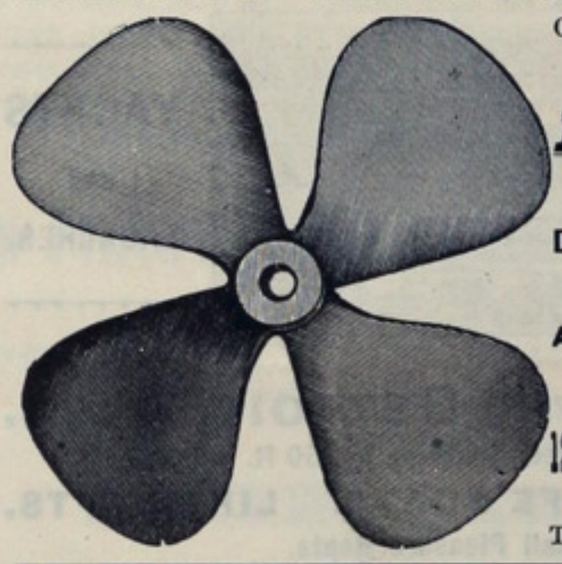

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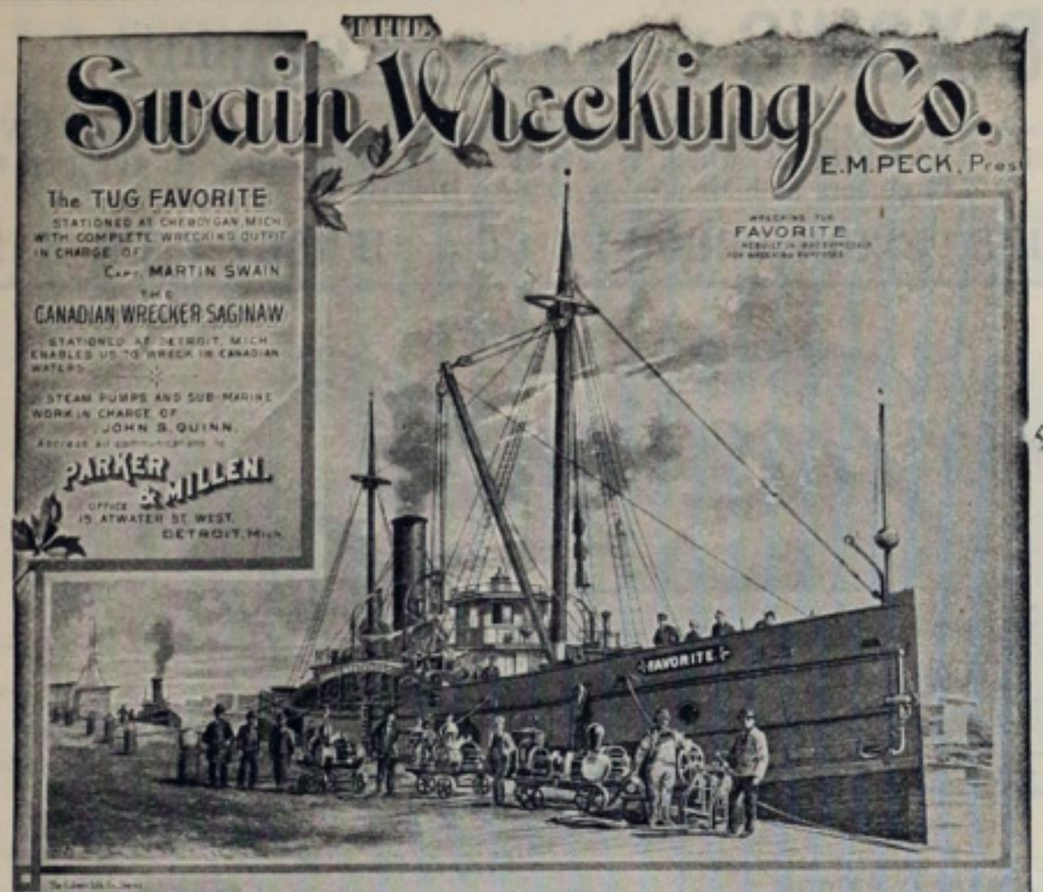

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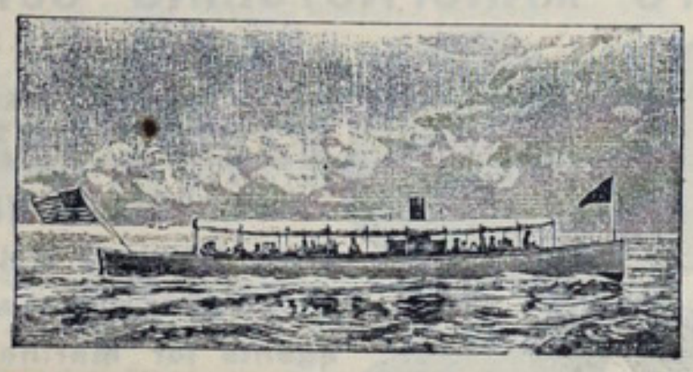

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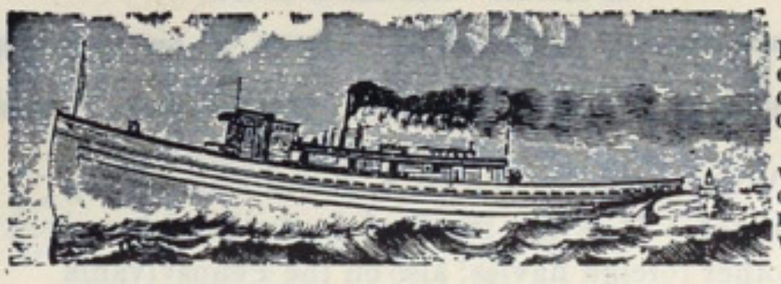

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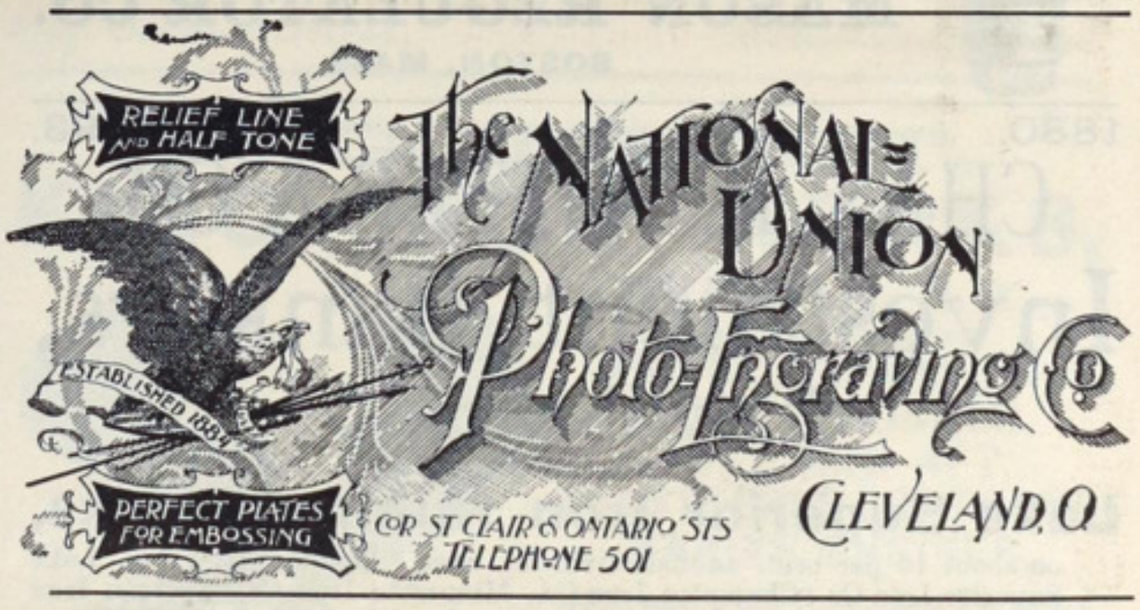

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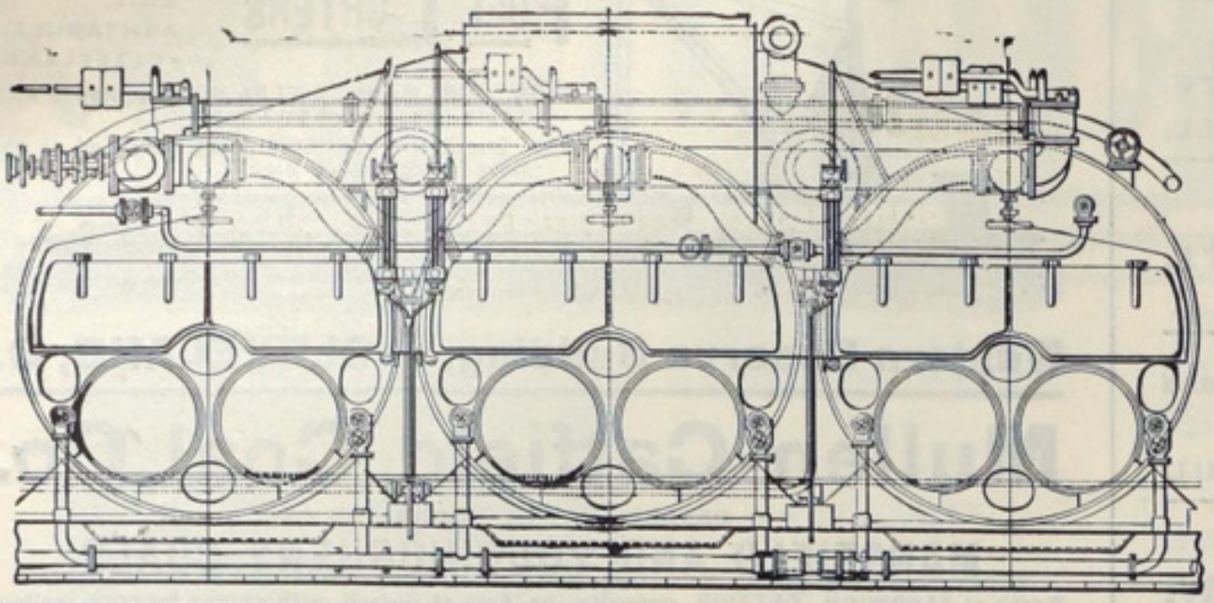

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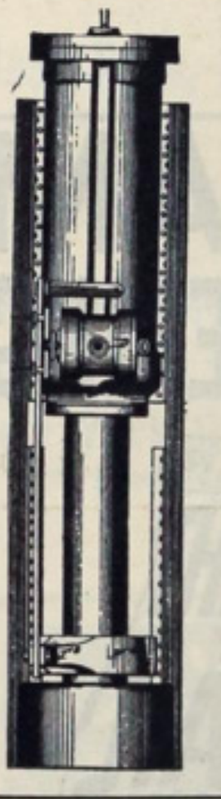

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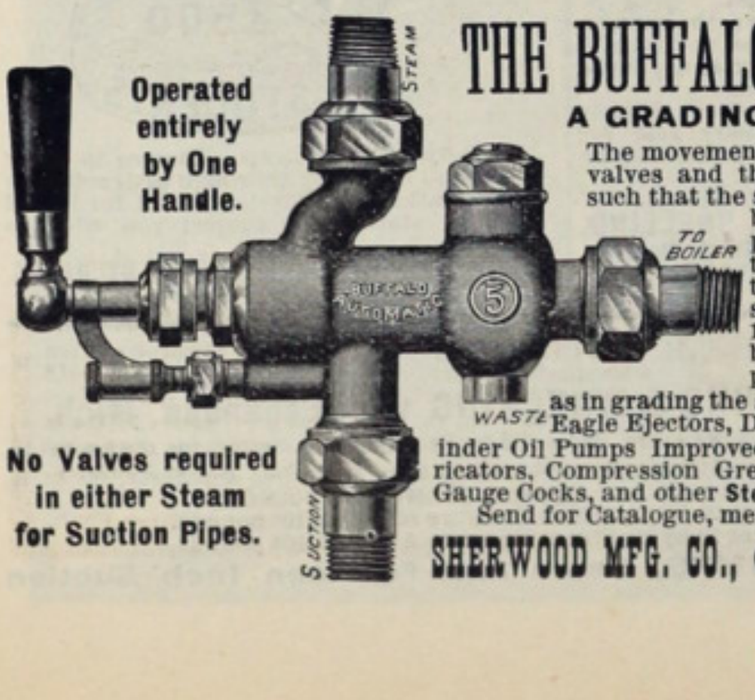

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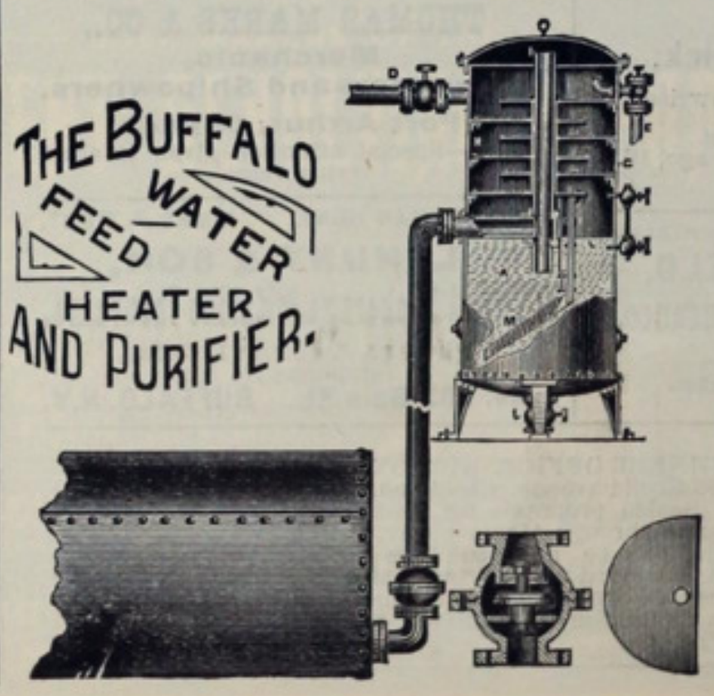

REFERENCES.

A.—Settling chamber.
B.—Boiler.
C.—Feed pipe to boiler.
D.—Steam pipe.
E.—Water supply pipe.
F.—Check valve.
G.—Spray disks.
H.—Spray chamber.
I.—Equalizing tube.
J.—Blow-off pipe.
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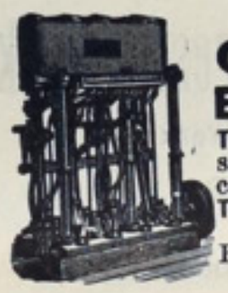
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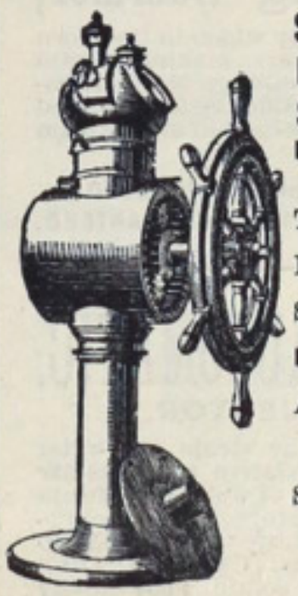
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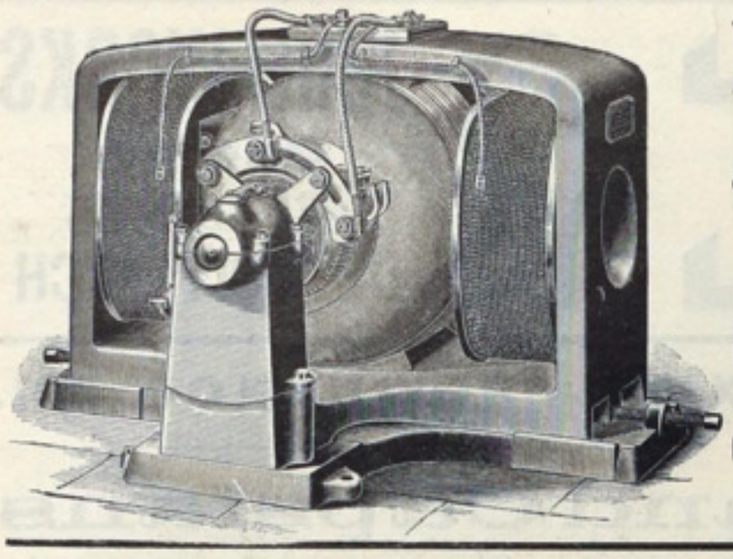

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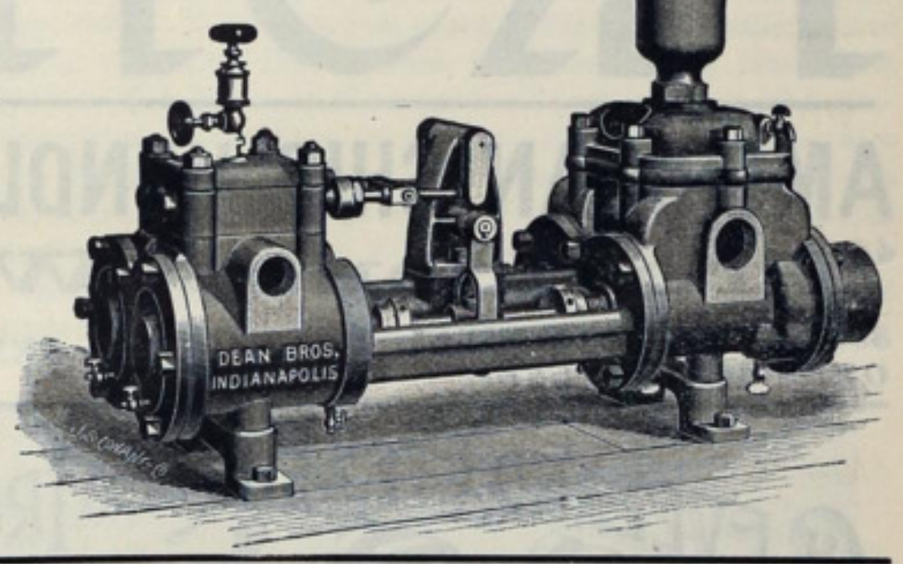

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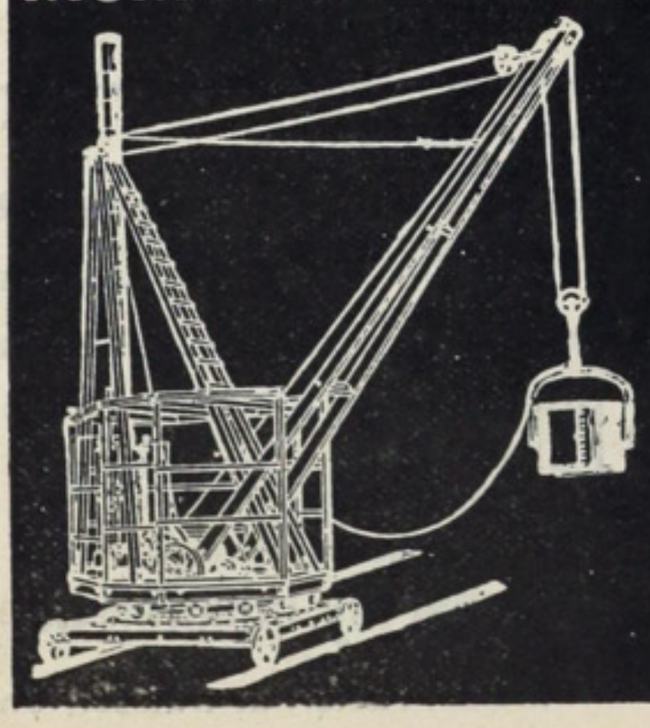

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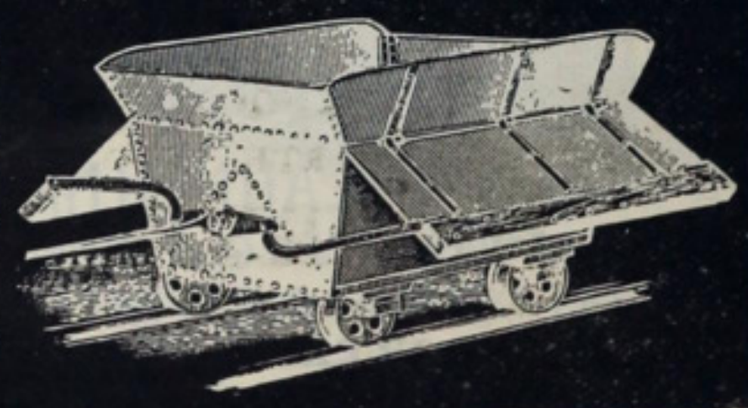

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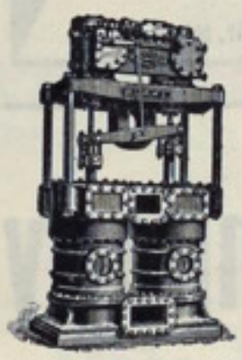

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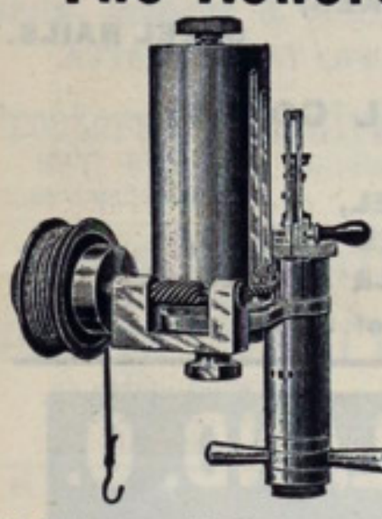

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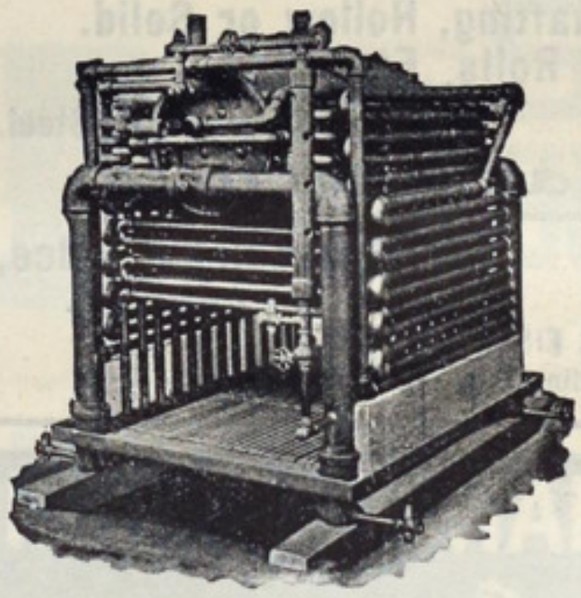

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